

WHAT IS CLAIMED IS:

1. A distributed software system, comprising:
at least one server component supporting one or more server objects having associated data; and
5 at least one client component that is distributed from the server component and operable to access data associated with one or more of the server objects according to a scheme making it substantially transparent to the client component whether the server component is local to or remote from the client component.
- 10 2. The system of Claim 1, wherein the scheme allows the client component to use the same operations to access server object data whether the client component is local to or remote from the server component.
- 15 3. The system of Claim 1, wherein the client component is operable to access server object data without determining whether the client component is local to or remote from the server component.
- 20 4. The system of Claim 1, wherein the client component is coded as if the client component will always be remote from any associated server component and all communications to such a server component will be remote communications.
- 25 5. The system of Claim 1, wherein the client component has been developed using templated code appropriate for multiple client components of the server component, such that local and remote client-server interface transparency is preserved across all such client components and repetitive code generation has been minimized in developing such client components.

6. The system of Claim 1, wherein the server component is within a first container and the client component is within a second container remote from the first container, the second container further comprising a proxy component supporting one or more proxy objects each providing a local version of a corresponding server object,
5 the proxy component operable to provide the client component with access to data associated with a proxy object in response to the client component requesting data associated with the corresponding server object.

7. The system of Claim 6, wherein the client component is operable to
10 execute data access operations optimized for local communications and the proxy component is operable to execute data access operations optimized for remote communications, such that data access operations that are optimized for remote communications are performed when the client component is remote from the server component and data access operations that are optimized for local communications
15 are performed when the client component is local to the server component.

8. The system of Claim 6, wherein the proxy component is operable to perform management tasks relating to the proxy objects.

20 9. The system of Claim 6, wherein the proxy component is a generic component customized by a developer of the server component.

10. The system of Claim 6, wherein the proxy component and the server component are operable to cooperate to reconcile proxy object data with server object
25 data, using one or more operations, in a manner consistent with local and remote client-server interface transparency.

11. A distributed software system, comprising:
at least one server component supporting one or more server objects having associated data; and
at least one client component that is distributed from the server component and operable to access data associated with one or more of the server objects according to a scheme allowing the client component to use the same operations to access server object data whether the client component is local to or remote from the server component.

12. A distributed software system, comprising:
- at least one server component supporting one or more server objects having associated data, the server component being within a first container;
 - at least one client component that is:
 - 5 distributed from the server component, the client component being within a second container remote from the first container; and
 - operable to access data associated with one or more of the server objects, without determining whether the client component is local to or remote from the server component, according to a scheme that makes it substantially transparent to
 - 10 the client component whether the server component is local to or remote from the client component and that allows the client component to use the same operations to access server object data whether the client component is local to or remote from the server component; and
 - at least one proxy component supporting one or more proxy objects each
 - 15 providing a local version of a corresponding server object, the proxy component being within the second container and operable to provide the client component with access to data associated with a proxy object in response to the client component requesting data associated with the corresponding server object.

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13. A client component that is:
- distributed from a server component supporting one or more server objects having associated data;
- operable to access data associated with one or more of the server objects
- 5 according to a scheme making it substantially transparent to the client component whether the server component is local to or remote from the client component.

00924802-041304
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14. A proxy component that:

is within a first container that also contains a client component and is remote from a second container containing a server component which supports one or more server objects having associated data, the client component being distributed from the

5 server component;

supports one or more proxy objects each providing a local version of a corresponding server object; and

is operable to provide the client component with access to data associated with a proxy object in response to the client component requesting data associated with the
10 corresponding server object, it being substantially transparent to the client component whether the server component is local to or remote from the client component.

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15. A method of providing data access in a distributed software system, comprising:

receiving a request from a client component for data that is associated with a server object of a server component;

5 if the client component is local to the server component, allowing the client component to directly access the requested server object data; and

if the client computer is remote from the server component, using a proxy component to provide the client component with local access to proxy object data corresponding to the requested server object data, the proxy component supporting
10 one or more proxy objects each being a local copy of a corresponding server object;

it being substantially transparent to the client component whether the server component is local to or remote from the client component.

16. The method of Claim 15, further comprising allowing the client
15 component to use the same operations to access server object data whether the client component is local to or remote from the server component.

17. The method of Claim 15, further comprising allowing the client
component to access server object data without determining whether the client
20 component is local to or remote from the server component.

18. The method of Claim 15, wherein the client component is coded as if
the client component will always be remote from any associated server component
and all communications to such a server component will be remote communications.

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19. The method of Claim 15, wherein the client component has been
developed using templated code appropriate for multiple client components of the
server component, such that local and remote client-server interface transparency is
preserved across all such client components and repetitive code generation has been
30 minimized in developing such client components.

20. The method of Claim 15, wherein the server component is within a first container and the client component is within a second container remote from the first container, the method further comprising:

providing a proxy component within the second container supporting one or
5 more proxy objects each providing a local version of a corresponding server object;
and

using the proxy component to provide the client component with access to data associated with a proxy object in response to the client component requesting data associated with the corresponding server object.

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21. The method of Claim 20, wherein the client component executes data access operations optimized for local communications and the proxy component executes data access operations optimized for remote communications, such that data access operations optimized for remote communications are performed when the
15 client component is remote from the server component and data access operations optimized for local communications are performed when the client component is local to the server component.

22. The method of Claim 20, wherein the proxy component performs
20 management tasks relating to the proxy objects.

23. The method of Claim 20, wherein the proxy component is a generic component customized by a developer of the server component.

25 24. The method of Claim 20, wherein the proxy component and the server component cooperate to reconcile proxy object data with server object data, using one or more operations, in a manner consistent with local and remote client-server interface transparency.

25. A method of providing data access in a distributed software system, comprising:

receiving a request from a client component for data that is associated with a server object of a server component;

5 if the client component is local to the server component, allowing the client
component to directly access the requested server object data; and

if the client computer is remote from the server component, using a proxy component to provide the client component with local access to proxy object data corresponding to the requested server object data, the proxy component supporting 10 one or more proxy objects each being a local copy of a corresponding server object;

the client component using the same operations to access server object data whether the client component is local to or remote from the server component.

26. A method of providing data access in a distributed software system, comprising:

receiving a request from a client component for data that is associated with a server object of a server component distributed from the client component, the server object being within a first container and the client component being within a second container remote from the first container;

if the client component is local to the server component, allowing the client component to directly access the requested server object data; and

if the client computer is remote from the server component, using a proxy component within the second container to provide the client component with local access to proxy object data corresponding to the requested server object data, the proxy component supporting one or more proxy objects each being a local version of a corresponding server object;

it being substantially transparent to the client component whether the server component is local to or remote from the client component, the client component being able to use the same data access operations whether the client component is local to or remote from the server component.

27. A method of accessing data in a distributed software system using a client component, comprising:

- 5 at the client component, accessing data associated with one or more server objects of a server component that is distributed from the client component, each server object having associated data, the client component accessing the server object data according to a scheme making it substantially transparent to the client component whether the server component is local to or remote from the client component.

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28. A method of providing data access in a distributed software system using a proxy component, the proxy component being within a first container that also contains a client component and is remote from a second container containing a server component supporting one or more server objects having associated data, the client component being distributed from the server component, the method comprising:
- 5 supporting one or more proxy objects each providing a local version of a corresponding server object; and
- providing the client component with access to data associated with a proxy object in response to the client component requesting data associated with the corresponding server object, it being substantially transparent to the client component
- 10 whether the server component is local to or remote from the client component.

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